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## ABSTRACT

This report discusses a federally mandated standard concerning establishment of a program to reduce exposure to blood and other potentially infectious materials (OPIM) in Iowa schools and education agencies. The standard includes the following components: introduction, scope and application, definitions, exposure control, methods of compliance, Hepatitis B vaccinations, post-exposure evaluation and follow-up, communication of hazards to employees, and recordkeeping. A "response team" approach for dealing with school situations involving blood and OPIM is recommended. Interpretations of the standard by the Occupational Safety and Health Administration of the U.S. Department of Labor are cited in the areas of first aid providers and coverage of discarded feminine hygiene products. The report provides a sample format for a written policy, a sample Hepatitis B vaccine information record, a list of universal precautions, and a sample training attendance certificate. (JDD)

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A Report to  
Provide Information on

# School Occupational Exposure to Bloodborne Pathogens

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***Occupational Exposure to Bloodborne Pathogens*****REFERENCE.**

*Federal Register Volume 56, Number 235, Friday, December 6, 1991, pages 64004-64182.*

*For a copy of the standard, contact: OSHA Office of Publications; U.S. Department of Labor, room N3101, 200 Constitution Ave., N.W., Washington, DC 20210, Telephone 202-532-9667.*

The Federal Department of Labor, OSHA published the *Occupational Exposure to Bloodborne Pathogens; Final Rule* in the Federal Register, December 6, 1991. Following the publication, Iowa schools contacted the Department of Education asking if the law applied to schools. Information from the Iowa Division of Labor, Occupational Safety and Health Bureau, stated that the federal and state laws do apply to Iowa schools as employers. Memos from the Department of Education followed, notifying schools about the rule. The memos contained a sample format to help schools in establishing a program. Compiled information from the memos and the sample format follows.

In brief, the standard provides opportunities to establish a school program with the purpose to end and reduce exposure to blood and other potentially infectious materials (OPIM); work with local health care providers in developing the program; and educate staff, students, families, and the community in preventing exposure to bloodborne pathogens.

The standard requires Iowa schools and education agencies to develop an occupational exposure to bloodborne pathogens program, including written policy and guidelines. School board policy is the first consideration. The Iowa Association of School Boards recommends inclusion in the employee physical examination policy: "It shall be the responsibility of the superintendent to write an exposure control plan to eliminate or minimize district occupational exposure to bloodborne pathogens. The plan for designated employees shall include, but not be limited to, scope and application, definitions, exposure control, methods of compliance, hepatitis B vaccination and post-exposure evaluation and follow-up, communication of hazards to employees, and recordkeeping."

An advisory group may develop the plan. The group might include representation from the school board, school administration, school nurse, physicians, public health, human services, support and related services, transportation, maintenance, food service, athletics, physical education, health education, school health, parents, students, community, and business.

All parts of the standard are currently in effect. The standard applicable to the school setting includes: (I) Introduction, (II) Scope and application, (III) Definitions, (IV) Exposure Control, (V) Methods of Compliance, (VI) Hepatitis B vaccination, post-exposure evaluation and follow-up, (VII) Communication of hazards to employees, and (VIII) Recordkeeping.

Exposure control (IV) is a key provision because it requires the identification of employees who will receive the protective benefits of the plan, and designates those employees assigned to respond to situations involving possible exposure to blood and OPIM. Exposure control contains the exposure control plan, exposure determination, compliance schedule and method, post-exposure procedures, access to plan copies, and review and update.

To end and reduce exposure requires a new procedure for responding to situations in the school. The Iowa Department of Labor recommends a "response team" approach: the school response team and backup response team, as assigned, respond to situations involving blood and OPIM. The team approach would decrease the number of employees potentially exposed and comply with the purpose of the law. The Iowa Department of Labor and the Department of Public Health *do not recommend* the inclusion of all school employees in the plan. Through review of job requirements and past exposure the district could determine those employees reasonably expected to have exposure to blood and OPIM. Team members to consider include: nurses, coaches, physical education teachers, teachers and paraprofessionals of developmentally delayed students who require assistance with personal and health care procedures, secretaries, and custodians. The list of tasks and procedures involving contact with blood or OPIM may include response to injury, response to illness, personal and health care procedures, and cleaning. It is recommended that employees included in the program, other individuals in the school setting, students, families, and the community receive education in universal precautions, and understand the school exposure control response system. OSHA further recommends, *but does not require*, employees not included in the program that have an unanticipated exposure follow the post-exposure procedure.

A standard interpretation from OSHA, *First aid providers as it relates to the bloodborne pathogen standard* (April 7, 1992), clarifies issues regarding the exposure plan response team. It states: "It is not OSHA's intent to in any way discourage employers from providing their employees with first aid training paid for by the company. Employees receiving this training, however, may not be covered by the standard. First, the employee must reasonably be expected to come into occupational contact with blood or other potentially infectious materials (OPIM), and secondly, the employee must be a member of a first aid team or is otherwise expected and/or is designated by his/her employer to render medical assistance as one of his or her duties. Unless the employee providing this assistance meets both of these conditions, the individual would *not* have 'occupational exposure' and thus would not be covered by the standard. Any humanitarian gesture by this individual, such as assisting another employee who has a nose bleed or who is bleeding as the result of a fall, would be considered to be a 'Good Samaritan' act and would *not* be considered to be 'occupational exposure' despite having had first aid training."

A standard interpretation from OSHA, *Coverage of discarded feminine hygiene products as regulated waste* (April 13, 1992), provides clarification of regulated waste. It states: "The standard defines 'regulated waste' as liquid or semi-liquid blood or other potentially infectious material (OPIM): items contaminated with blood or OPIM and which would release these substances in a liquid or semi-liquid state if compressed; items that are caked with dried blood or OPIM and are capable of releasing these materials during handling; and contaminated sharps. OSHA does not generally consider discarded feminine hygiene products, used to absorb menstrual flow, to fall within the definition of regulated waste. The intended function of products such as sanitary napkins is to absorb and contain blood; the absorbent material of which they are composed would, under most circumstances, prevent the release of liquid or semi-liquid blood or the flaking off of dried blood. OSHA expects these products to be discarded into waste containers which are properly lined with a plastic or wax paper bag. In most cases, such bags should protect the employee servicing these waste containers from physical contact with the contents. Additionally, OSHA expects employers to provide employees responsible for emptying these containers with suitable gloves, if the employer would determine that there may be exposure to a hazard. At the same time, it is the employer's responsibility to determine the existence of regulated waste. This determination is not to be based on actual volume of blood, rather on the potential to release blood, e.g., when compacted in the waste container. During inspections, on a case-by-case basis, if OSHA determines that sufficient evidence of regulated waste exists, e.g., through such visual factors as a pool of liquid in the bottom of a container, or dried blood flaking off during handling, or based on employee interviews, citations may be issued."

Schools' regulated waste then could include blood and OPIM that are liquid, semi-liquid, caked with dried blood and capable of releasing the substance if compressed, and needles and equipment used for injections. Regulated waste *does not* include a band-aid, towel, or other waste that absorbs the substance and does not have the potential of releasing the substance if compressed. Schools would only be expected to have regulated waste in the case of a severe accident and needles used for injections. It may be necessary to arrange with a local healthcare provider to dispose of the small amount of regulated waste anticipated in the school setting. An approved incineration process and the sanitary sewer system are acceptable disposal methods for regulated waste in Iowa.

OSHA published information about an optional alternative plan July 8, 1992. This plan allows employers to offer certain first aid providers the hepatitis B vaccine upon exposure rather than offering pre-exposure vaccinations.

If your district or agency decides to add the optional alternative plan, you could use it with employees not on the response team. Ideally, only members of the response team would have the potential of exposure to blood or OPIM, but if an employee not designated as a team member provides first aid and experiences an exposure, the optional alternative plan would apply. Each district and agency may want to assess the following factors when considering whether to use the optional alternative plan. It may require: additional guidelines, recordkeeping and training; fewer employees receiving pre-exposure vaccinations;

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expensive post-exposure vaccinations and program implementation; and availability of vaccine and follow-up within 24 hours.

The optional alternative plan would only be applicable in the circumstances described below.

The performance of first aid must not be the affected individual's primary job assignment or routinely provided by the individual; it is only a collateral duty, and as a result the individual has not been included in precautions afforded to the designated response team. **Note:** This means the optional alternative plan does not apply to first aid providers expected to give aid on a regular basis, for example, at a first aid station or location where injured persons routinely go for such help.

To all first aid providers unvaccinated for hepatitis B who give aid in any situation involving the presence of blood or OPIM (regardless of whether an actual exposure incident as defined by the standard occurred) the district must offer (1) The full hepatitis B vaccination series as soon as possible, but in no event later than 24 hours following the exposure incident, and (2) The appropriate post-exposure evaluation, prophylaxis and follow-up procedures, including:

- A reporting procedure for all first aid incidents involving blood or OPIM, and a record of all incidents, available on request to authorized employees and the regulatory agencies.
- A reporting procedure before the end of the work shift in which the incident occurred.
- A record of all first aid providers names, regardless of personal protective equipment.
- A description of the first aid incident, time, and date.
- A provision for the post-exposure evaluation, prophylaxis, and follow-up procedures to be available immediately if there has been an exposure incident.
- Documentation the training program includes the specifics of the reporting procedure.

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The circled print in the sample format indicates the optional alternative plan (OAP) suggested additions.

David Miller, Program Manager, Immunization Program, states, Iowa public schools may purchase the hepatitis B vaccine for public school employees designated in the occupational exposure to bloodborne pathogens plan at cost through their local health department. Contact your local health department for information and ordering procedure. The contract is with Merck, Sharp and Dohme (MSD) and in order to maintain purchasing privileges certain procedures must be followed. Phone David Miller, 515-281-4917 for information.

**IMPORTANT:  
THIS IS A  
SAMPLE  
ONLY.**

*Do not accept any portion of this sample as policy, rules or guidelines until after full and sufficient consideration. Legal counsel review of policies and regulations is recommended.*

Further standard clarifications and updates that apply to the school setting will be sent as received. The sample format, hepatitis form, universal precautions, training certificate, and resources follow. Please share this information with district and agency individuals involved in school health.

**It is critical that information and knowledge about the school program for occupational exposure to bloodborne pathogens be presented and distributed to all staff, students, parents, and the community.**

Please contact Charlotte Burt, phone 515-281-5327 with questions or comments.

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# **Sample Format Occupational Exposure to Bloodborne Pathogens**

**Iowa Division of Labor  
Occupational Safety and Health Administration  
(OSHA)**

**29 Code of Federal Regulations (CFR) Part 1910.1030  
Occupational Exposure to Bloodborne Pathogens  
Subpart Z**

**Bloodborne Pathogens  
Standard Summary applicable to Schools**

## Occupational Exposure to Bloodborne Pathogens

### I. Introduction

The intent of the Occupational Safety and Health Administration (OSHA) standard is to eliminate or minimize occupational exposure to Hepatitis B virus (HBV), which causes hepatitis B, a serious liver disease, Human Immunodeficiency Virus (HIV), which causes Acquired Immunodeficiency Syndrome (AIDS) and other bloodborne pathogens. Based on a review of the information in the rulemaking record, OSHA has made a determination that employees face a significant health risk as the result of occupational exposure to blood and other potentially infectious materials because they may contain pathogens. OSHA further concludes that this exposure can be minimized or eliminated using a combination of engineering and work practice controls, personal protective clothing and equipment, training, medical surveillance, Hepatitis B vaccination, signs and labels, and other provisions. The standard includes scope and application, definitions, exposure control, methods of compliance, Hepatitis B vaccination and post-exposure evaluation and follow-up, communication of hazards to employees, recordkeeping, and effective dates. Not included are the Research Laboratories and Production Facilities portion of the standard that are not expected to be applicable in schools. This summary is not a substitute for the OSHA standard and for further clarification, refer to the OSHA standard, *Federal Register*, Volume 56, Number 235, Friday, December 6, 1991, pages 64004-64182.

### II. Scope and Application

The federal law applies to all occupational exposure to blood and other potentially infectious materials.

### III. Definitions

**Blood** means human blood, human blood components, and products made from human blood.

**Bloodborne Pathogens** means pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV) and human immunodeficiency virus (HIV).

**Contaminated** means the presence or the reasonably anticipated presence of blood or other potentially infectious materials on an item or surface.

**Contaminated Laundry** means laundry that has been soiled with blood or other potentially infectious materials on an item or surface.

**Contaminated Sharps** means any contaminated object that can penetrate the skin including, but not limited to, needles, scalpels, broken glass, broken capillary tubes, and exposed ends of dental wires.

**Decontamination** means the use of physical or chemical means to remove, inactivate, or destroy bloodborne pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use, or disposal.

**Director** means the Director of the National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services, designated representative, or regulatory agency.

**Engineering Controls** means controls (e.g., sharps disposal containers, self-sheathing needles) that isolate or remove the bloodborne pathogens hazard from the workplace.

**Exposure Incident** means a specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials that results from the performance of an employee's duties.

**First aid provider unvaccinated for hepatitis B** means an employee who is not assigned to the response and back-up team, whose primary job assignment is not the routine performance of first aid, and who, in the absence of or in addition to the team, responds to an injury resulting from a workplace incident.

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**Handwashing Facilities** means a facility providing an adequate supply of running potable water, soap and single use towels or hot air drying machines.

**HBV** means hepatitis B virus.

**HIV** means human immunodeficiency virus.

**Occupational Exposure** means reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of an employee's duties.

**Other Potentially Infectious Materials** means (1) The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids; (2) Any unfixed tissue or organ from a human (living or dead); and (3) HIV-containing cell or tissue cultures.

**Parenteral** means piercing mucous membranes or the skin barrier through such events as needlesticks, human bites, cuts, and abrasions.

**Personal Protective Equipment** is specialized clothing or equipment worn by an employee for protection against a hazard. General work clothes (e.g., uniforms, pants, shirts or blouses) not intended to function as protection against a hazard are not considered to be personal protective equipment.

**Regulated Waste** means liquid or semi-liquid blood or other potentially infectious materials; contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed; items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological wastes containing blood or other potentially infectious materials.

**Source Individual** means any individual, living or dead, whose blood or other potentially infectious materials may be a source of occupational exposure to the employee.

**Sterilize** means the use of a physical or chemical procedure to destroy all microbial life including highly resistant bacterial endospores.

**Universal Precautions** is an approach to infection control. According to the concept of Universal Precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens.

**Work Practice Controls** means controls that reduce the likelihood of exposure by altering the manner in which a task is performed.

## IV. School District Exposure Control

### A. *Exposure control plan.*

The \_\_\_\_\_ Community School District establishes this written exposure control plan to eliminate or minimize district occupational exposure to bloodborne pathogens and to meet the requirements of the Iowa Division of Labor, Occupational Safety and Health Administration, 29 Code of Federal Regulations (CFR), Part 1910.1030. The district exposure control plan includes: exposure determination, schedule and method of compliance, provision for plan copies to be accessible and available upon request, and the review and updating of the plan.

### B. *Exposure determination.*

The school district and each building have identified the following classifications of employees who in the performance of their duties may have: 1. Reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials such as blood, semen, vaginal secretions, internal body fluids, and body fluids visibly contaminated with blood, and 2. Reasonably anticipated contact with all body fluids in situations where it is difficult or impossible to differentiate between body fluids. The exposure determination shall be made without regard to the use of personal protective

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equipment. The list of employees and tasks and procedures in this exposure plan includes (use the following guide to list response team and tasks and procedures):

1. A list of job assignments in which district employees have occupational exposure (explain response team plan); \*
2. A list of job assignments in which specific employees have occupational exposure (explain specific team member assignment and location of listing); \*
3. A list of all tasks and procedures performed by assigned employees in which occupational exposure could occur; \* and
4. Employees not designated in the response team or back-up response team report a first aid incident involving the presence of blood or OPIM immediately to the designated person and provide information for a report.\* Following an exposure incident, the first aid provider unvaccinated for hepatitis B will be offered the hepatitis B vaccination series, post-exposure evaluation, and follow-up.

**C. Schedule and method of compliance.**

The plans for methods of compliance (universal precautions, engineering and work practice controls, personal protective equipment, housekeeping), hepatitis B vaccination and post-exposure evaluation and follow-up, communication of hazards to employees (labels and signs and information and training), and recordkeeping follow.

**D. Post-exposure evaluation and follow-up.**

Following a report of an exposure incident, the district shall make immediately available to the exposed employee, a confidential medical evaluation as specified in the standard. Follow-up of the incident shall include documentation of the route(s) of exposure, the circumstances surrounding exposure incidents, failures of control at the time of the exposure incident, and other elements as specified in the standard. It is recommended that employees who have an unexpected exposure and are not listed in the exposure determination follow the procedures outlined in the post exposure plan.

**E. Copies of the plan.**

A copy of the plan will be provided to all district employees and is available\* for examination and copying by other persons upon request.

**F. Plan review and update.**

The plan shall be reviewed and updated annually and whenever necessary to reflect new or modified tasks and procedures that effect occupational exposure and to reflect new or revised employee positions with occupational exposure.

### V. Methods of Compliance

**A. General-**Universal precautions are observed to prevent contact with blood or other potentially infectious materials. Under circumstances in which differentiation between body fluid types is difficult or impossible, all body fluids are considered potentially infectious materials.

**B. Engineering and work practice controls.**

1. Engineering and work practice controls are used to eliminate or minimize employee exposure. Where occupational exposure remains after institution of these controls, personal protective equipment is also used. \*
2. Engineering controls are examined and maintained or replaced on a regular schedule to ensure their effectiveness. \*
3. The district provides handwashing facilities which are readily accessible to employees. \*

4. When provision of handwashing facilities is not feasible, the district provides appropriate antiseptic hand cleanser in conjunction with clean cloth or paper towels or antiseptic towelettes. When antiseptic hand cleaners or towelettes are used, hands are washed with soap and running water as soon as feasible. \*
5. The district ensures that employees wash their hands immediately or as soon as feasible after removal of gloves or other personal protective equipment.
6. The district ensures that employees wash hands and any other skin with soap and water, or flush mucous membranes with water immediately or as soon as feasible following contact of such body areas with blood or OPIM.
7. Contaminated needles and other contaminated sharps are not to be bent, recapped, or removed. Shearing or breaking of contaminated needles is prohibited.
8. Immediately or as soon as possible after use, contaminated reusable sharps, are placed in appropriate containers until properly reprocessed. Containers are:
  - a. Puncture resistant;
  - b. Labeled or color-coded; and
  - c. Leakproof on the sides and bottom.
9. Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses are prohibited in work areas where there is a reasonable likelihood of occupational exposure.
10. All procedures involving blood or other potentially infectious materials are performed in such a manner as to minimize splashing, spraying, spattering, and generation of droplets of these substances.
11. Equipment that may become contaminated with blood or OPIM is examined prior to servicing or shipping and is decontaminated as necessary. \*

**C. Personal protective equipment.**

1. Provision. When there is occupational exposure, the district provides, at no cost to the employee, appropriate personal protective equipment such as gloves. \* Additional personal protective equipment may be necessary in some districts including but not limited to, gowns, or resuscitation devices. The personal protective equipment type and characteristics will depend upon the task and degree of exposure anticipated. "Appropriate" means the equipment does not permit blood or other potentially infectious materials to pass through under normal conditions of use.
2. Use. The district ensures that the employee uses appropriate personal protective equipment unless the district shows that the employee temporarily and briefly declined to use personal protective equipment when, under rare and extraordinary circumstances, it was the employee's professional judgment that in the specific instance its use would have prevented the delivery of health care or public safety services or would have posed an increased hazard to the safety of the worker or co-worker. When the employee makes this judgment, the circumstances are investigated and documented to determine whether changes can be instituted to prevent such occurrences in the future.
3. Accessibility. The district ensures that appropriate personal protective equipment in the appropriate sizes is readily accessible at the worksite or is issued to employees. \* Hypoallergenic gloves, glove liners, powderless gloves, or other similar alternatives are readily accessible to those employees who are allergic to the gloves normally provided.
4. Cleaning, Laundering, and Disposal. The district will clean, launder, and dispose of personal protective equipment at no cost to the employee. \*
5. Repair and Replacement. The district will repair or replace personal protective equipment as needed to maintain its effectiveness, at no cost to the employee.
6. If a garment(s) is penetrated by blood or other potentially infectious materials, the garment(s) is removed immediately or as soon as feasible.
7. All personal protective equipment is removed prior to leaving the work area.
8. Removed personal protective equipment is placed in an appropriately designated area or container for storage, washing, decontamination or disposal.

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9. Gloves. Gloves are worn when it can be reasonably anticipated that the employee may have hand contact with blood, other potentially infectious materials, mucous membranes, and non-intact skin, and when handling or touching contaminated items or surfaces.
  - a. Disposable (single use) gloves are replaced as soon as practical when contaminated or as soon as feasible if they are torn, punctured, or when their ability to function as a barrier is compromised.
  - b. Disposable (single use) gloves are not washed/decontaminated for re-use.
  - c. Utility gloves may be decontaminated for re-use if the integrity of the glove is not compromised. However, they must be discarded if they are cracked, peeling, torn, punctured, or exhibit other signs of deterioration or when their ability to function as a barrier is compromised.

### D. Housekeeping.

1. General. The district ensures that the worksite is maintained in a clean and sanitary condition. The district implements an appropriate written schedule for cleaning and method of decontamination based upon the location within the facility, type of surface to be cleaned, type of soil present, and tasks or procedures being performed in the area. \*
2. All equipment and environmental and working surfaces are cleaned and decontaminated after contact with blood or OPIM.
  - a. Contaminated surfaces are decontaminated with an appropriate disinfectant immediately or as soon as feasible when surfaces are contaminated.
  - b. Protective coverings, such as imperviously backed absorbent paper used to cover surfaces are removed and replaced when contaminated.
  - c. All bins, pails, cans, and similar reusable receptacles which have a reasonable likelihood for becoming contaminated with blood or other potentially infectious materials are inspected and decontaminated on a regularly scheduled basis and cleaned and decontaminated immediately or as soon as feasible upon visible contamination.
  - d. Broken glassware that may be contaminated is not to be picked up directly with the hands. It is cleaned up using mechanical means such as a brush and dust pan.
  - e. Reusable sharps contaminated with blood or other potentially infectious materials are not stored in a manner that requires employees to reach by hand into the containers.
3. Regulated Waste.
  - a. Contaminated Sharps Discarding and Containment.
    - 1) Contaminated sharps are discarded immediately in containers that are:
      - a) Closable;
      - b) Puncture resistant;
      - c) Leakproof on sides and bottom; and
      - d) Labeled or color-coded.
    - 2) During use, containers for contaminated sharps are:
      - a) Easily accessible to personnel and located as close as feasible to the immediate area where the sharps are used; \*
      - b) Maintained upright throughout use and
      - c) Replaced routinely and not allowed to overfill.
    - 3) When moving containers of contaminated sharps, the containers are:
      - a) Closed immediately prior to removal;
      - b) Placed in a secondary container if leakage is possible. The second container is: closable; constructed to contain all contents and prevent leakage during handling; and appropriately labeled or color-coded.
    - 4) Reusable containers are not opened, emptied, or cleaned manually or in any other manner which would expose employees to the risk of injury.
  - b. Other Regulated Waste Containment.
    - 1) Regulated waste, to prevent leakage during handling, is placed in containers that are:
      - a) Closable;

- b) Constructed to contain all contents and prevent leakage;
- c) Labeled or color-coded; and
- d) Closed prior to removal to prevent spillage of contents.
- 2) If outside contamination of the regulated waste container occurs, it is placed in a second container. The second container meets the above requirements b., 1), a)-d).
- c. Disposal of all regulated waste is in accordance with the applicable Iowa regulations.
- 4. Laundry \*
  - a. Contaminated laundry is handled as little as possible with a minimum of agitation.
    - 1) Contaminated laundry is bagged or containerized at the location where it was used and is not sorted or rinsed in the location of use.
    - 2) Contaminated laundry is placed and transported in bags or containers appropriately labeled or color-coded.
    - 3) Whenever contaminated laundry is wet and presents a reasonable likelihood of soak-through or leakage from the bag or container, the laundry is placed and transported in bags or containers that prevent soak-through and/or leakage to the exterior.
  - b. The district ensures that employees who have contact with contaminated laundry wear protective gloves and other appropriate personal protective equipment.

### **VI. Hepatitis B vaccination, post-exposure evaluation and follow-up.**

#### **A. General.**

- 1. The district provides the hepatitis B vaccine and vaccination series for all employees who are designated in the occupational exposure list (IV., B.), and post-exposure evaluation and follow-up for all employees designated in the occupational list (IV., B.) who have an exposure incident. \*
- 2. The district ensures that all medical evaluations and procedures including the hepatitis B vaccine and vaccination series, post-exposure evaluation, follow-up, and prophylaxis, are:
  - a. Made available at no cost to the employee;
  - b. Made available to the employee at a reasonable time and place;
  - c. Performed by or under the supervision of a licensed physician or another licensed healthcare professional; and
  - d. Provided according to recommendations of the U.S. Public Health Service current at the time the evaluations and procedures take place.
- 3. The district ensures that all laboratory tests are conducted by an accredited laboratory at no cost to the employee.

#### **B. Hepatitis B Vaccination.**

- 1. Hepatitis B vaccination is available after the employee has received the required training and within 10 working days of initial assignment to all employees who have occupational exposure unless the employee has previously received the complete hepatitis B vaccination series, antibody testing has revealed that the employee is immune, or the vaccine is contraindicated for medical reasons.
- 2. The district will not make participation in a prescreening program a prerequisite for receiving hepatitis B vaccination.
- 3. If the employee initially declines hepatitis B vaccination but at a later date while still covered under the plan decides to accept the vaccination, the district provides for the hepatitis B vaccination at that time.
- 4. The district assures that employees who decline to accept hepatitis B vaccination offered by the district sign the following statement: "I understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring hepatitis B

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virus (HBV) infection. I have been given the opportunity to be vaccinated with hepatitis B vaccine, at no charge to myself. However, I decline hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring hepatitis B, a serious disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with hepatitis B vaccine, I can receive the vaccination series at no charge to me."

5. If a routine booster dose(s) of hepatitis B vaccine is recommended by the US Public Health Service at a future date, such booster(s) will be made available.
6. The required training, including the plan and reporting, is received by all employees. The district offers to all first aid providers unvaccinated for hepatitis B who have rendered assistance in any situation involving the presence of blood or OPIM, regardless of whether an actual exposure incident as defined by the standard occurred, a. The full hepatitis B vaccination series as soon as possible, but in no event later than 24 hours following the exposure, and b. The appropriate post-exposure evaluation, prophylaxis, and follow-up.

- C. Post-exposure Evaluation and Follow-up.** Following a report of an exposure incident, the district will make immediately available to the exposed employee a confidential medical evaluation and follow-up, including at least the following elements:

1. Documentation of the route(s) of exposure, and the circumstances under which the exposure incident occurred;
2. Identification and documentation of the source individual, unless the district can establish that identification is infeasible or prohibited by state or local law:
  - a. The source individual's blood is tested as soon as feasible and after consent (parent, student or other) is obtained to determine HBV and HIV infectivity. If consent is not obtained, the district will establish that legally required consent cannot be obtained.
  - b. When the source individual is already known to be infected with HBV or HIV, testing for the source individual's known HBV or HIV status need not be repeated.
  - c. Results of the source individual's testing will be made available to the exposed employee, and the employee will be informed of applicable laws and regulations concerning disclosure of the identity and infectious status of the source individual. Iowa law requires written consent to disclose results of HIV testing.
3. Collection and testing of blood for HBV and HIV serological status;
  - a. The exposed employee's blood will be collected as soon as feasible and tested after consent is obtained.
  - b. If the employee consents to baseline blood collection, but does not give consent at that time for HIV serologic testing, the sample will be preserved for at least 90 days. If, within 90 days of the exposure incident, the employee elects to have the baseline sample tested, such testing will be done as soon as feasible.
4. Post-exposure prophylaxis, when medically indicated, as recommended by the U.S. Public Health Service;
5. Counseling; and
6. Evaluation of reported illnesses.

- D. Information Provided to the Healthcare Professional.**

1. The district ensures that the healthcare professional responsible for the employee's Hepatitis B vaccination is provided a copy of this regulation.
2. The district ensures that the healthcare professional evaluating an employee after an exposure incident is provided the following information:
  - a. A copy of the regulation;
  - b. A description of the exposed employee's duties as they relate to the exposure incident;
  - c. Documentation of the route(s) of exposure and circumstances under which

- exposure occurred;
- d. Results of the source individual's blood testing, if available; and
  - e. All medical records relevant to appropriate treatment of the employee including vaccination status that are the district's responsibility to maintain.
- E. Healthcare Professional's Written Opinion.** The district will obtain and provide the employee with a copy of the evaluation healthcare professional's written opinion within 15 days of the completion of the evaluation.
1. The healthcare professional's written opinion for Hepatitis B vaccination is limited to whether Hepatitis B vaccination is indicated for an employee, and if the employee has received such vaccination.
  2. The healthcare professional's written opinion for post-exposure evaluation and follow-up is limited to the following information:
    - a. That the employee has been informed of the results of the evaluation and
    - b. That the employee has been told about any medical conditions resulting from exposure to blood or other potentially infectious materials that require further evaluation or treatment.
  3. All other findings or diagnoses remain confidential and will not be included in the written report.

### **VII. Communication of hazards to employees.**

**A. Labels and signs. \***

1. Labels.
  - a. Warning labels are affixed to containers of regulated waste containing blood or other potentially infectious materials.
  - b. Labels have the legend shown in the column to the right:
  - c. Labels are fluorescent orange or orange-red or predominantly so, with lettering or symbols in a contrasting color.
  - d. Labels are affixed as close as feasible to the container by string, wire, adhesive, or other method that prevents their loss or unintentional removal.
  - e. Red bags or red containers may be substituted for labels.

**B. Information and Training. \***

1. The district requires employees with occupational exposure to participate in a training program which is provided at no cost to the employee and during working hours.
2. Training is provided as follows:
  - a. At the time of initial assignment to tasks where occupational exposure may take place; and
  - b. At least annually thereafter.
3. Annual training for all employees is provided within one year of their previous training.
4. The district provides additional training when changes such as modification of tasks or procedures or institution of new tasks or procedures affect the employee's occupational exposure. The additional training may be limited to addressing the new exposures created.
5. Materials are appropriate in content and vocabulary to educational level, literacy, and language of employees.
6. The training program contains at a minimum the following elements:
  - a. An accessible copy of the standard regulatory text and an explanation of its contents;
  - b. A general explanation of the epidemiology and symptoms of bloodborne diseases;
  - c. An explanation of the modes of transmission of bloodborne pathogens;
  - d. An explanation of the exposure control plan and the means by which the



**BIOHAZARD**

**Occupational Exposure to Bloodborne Pathogens**

- employee can obtain a copy of the written plan;
- e. An explanation of the appropriate methods for recognizing tasks and other activities that may involve exposure to blood and other potentially infectious materials;
  - f. An explanation of the use and limitations of methods that prevent or reduce exposure including appropriate engineering controls, work practices, and personal protective equipment;
  - g. Information on the types, proper use, location, removal, handling, decontamination and disposal of personal protective equipment;
  - h. An explanation of the basis for selection of personal protective equipment;
  - i. Information on the hepatitis B vaccine, including information on its efficacy, safety, method of administration, the benefits of being vaccinated, and that the vaccine and vaccination is offered free of charge;
  - j. Information on the appropriate actions to take and persons to contact in an emergency involving blood or other potentially infectious materials;
  - k. An explanation of the procedure to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow-up;
  - l. Information on the post-exposure evaluation and follow-up for the employee following an exposure incident;
  - m. An explanation of the signs and labels and/or color coding required; and
  - n. An opportunity for interactive questions and answers with the person conducting the training session.
- OAP**
- o. An explanation of the incident reporting and follow-up procedures for first aid providers unvaccinated for hepatitis B.
7. The person conducting the training is knowledgeable in the subject matter covered by the elements contained in the training program as it relates to the school.

**VIII. Recordkeeping.****A. Medical Records.**

1. The district maintains an accurate record for each employee with occupational exposure.  
The district maintains an accurate record for each employee who has had an occupational exposure including a record of all first aid incidents involving blood or OPIM, which must be reported immediately or not later than before the end of the work shift in which the incident occurred. \*
2. This record includes:
  - a. The name and social security number of the employee;
  - b. A copy of the employee's hepatitis B vaccination status including the dates of all the hepatitis B vaccinations and any medical records relative to the employee's ability to receive vaccination as required;
  - c. A copy of all results of examinations, medical testing, and follow-up procedures as required;
  - d. The district's copy of the healthcare professional's written opinion as required;
  - e. A copy of the information provided to the healthcare professional as required;
  - f. Names of all first aid providers (regardless of personal protective equipment), a description of the first aid incident, time, date, and a determination of whether exposure occurred as defined by the standard.
3. Confidentiality. The district ensures employee required medical records are:
  - a. Kept confidential and
  - b. Are not disclosed or reported without the employee's express written consent to any person within or outside the workplace except as required.
4. The district maintains the required records for at least the duration of employment plus 30 years.

**OAP****OAP**

**B. Training Records.**

1. Training records include the following information:
  - a. The dates of the training sessions;
  - b. The contents or a summary of the training sessions;
  - c. The names and qualifications of persons conducting the training and
  - d. The names and job titles of all persons attending the training sessions.
2. Training records are maintained for 3 years from the date on which the training occurred.

**C. Availability.**

1. All required records are available upon request to the regulatory agency for examination and copying.
2. Employee training records are provided upon request for examination and copying to employees, employee representatives, and the regulatory agency.
3. Employee medical records required by this paragraph are provided upon request for examination and copying to the subject employee, anyone having written consent of the subject employee, and the regulatory agency.

**D. Transfer of Records.**

1. The district transfers employee records regarding the standard to comply with the requirements.
2. If the district ceases to do business and there is no successor employer to receive and retain the records for the prescribed period, the district will notify the regulatory agency at least three months prior to their disposal and transmit them, if required by the regulatory agency to do so, within that three month period.

Date of preparation: \_\_\_\_\_

Date effective: \_\_\_\_\_

Review dates: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\* List specific information according to school including but not limited to: plan, location, or individual responsible. The information may be contained in an appendix.

## SAMPLE: HEPATITIS B VACCINE INFORMATION AND RECORD

### The Disease

Hepatitis B is a viral infection caused by Hepatitis B virus (HBV) which causes death in 1-2% of patients. Most people with Hepatitis B recover completely, but approximately 5-10% become chronic carriers of the virus. Most of these people have no symptoms, but can continue to transmit the disease to others. Some may develop chronic active hepatitis and cirrhosis. HBV may be a causative factor in the development of liver cancer. Immunization against the Hepatitis B virus can prevent acute hepatitis and its complications.

### The Vaccine

Hepatitis B vaccine is produced from yeast cells. It has been extensively tested for safety and effectiveness in large scale clinical trials.

Approximately 90% of healthy people who receive two doses of vaccine and a third dose as a booster achieve high levels of surface antibody (anti-HBs) and protection against Hepatitis B virus. Hepatitis B vaccine is recommended for workers with potential contact with blood or body fluids. Full immunization requires 3 doses of vaccine over a six month period, although some persons may not develop immunity even after 3 doses.

There is no evidence that the vaccine has ever caused Hepatitis B. However, persons who have been infected with HBV before receiving the vaccine may go on to develop clinical hepatitis in spite of immunization.

### Dosage and Administration

The Hepatitis B vaccine is given in three intramuscular doses in the deltoid muscle. Two initial doses are given one month apart and the third dose is given six months after the first.

### Possible Vaccine Side Effects

The incidence of side effects is very low. No serious side effects have been reported with the vaccine. Ten to 20% of persons experience tenderness and redness at the site of injection and low grade fever. Rarely rash, nausea, joint pain, and mild fatigue have been reported. The possibility exists that other side effects may be identified with more extensive use.

Employee Name (last, first, middle)	Social Security Number
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### Consent for Hepatitis B Vaccination

I have knowledge of Hepatitis B and the Hepatitis B vaccination. I have had an opportunity to ask questions of a qualified nurse or physician and understand the benefits and risks of Hepatitis B vaccination. I understand that I must have 3 doses of the vaccine to obtain immunity. However, as with all medical treatment, there is no guarantee that I will become immune or that I will not experience side effects from the vaccine. I give my consent to be vaccinated for hepatitis B.

Signature of Employee (consent for Hepatitis B vaccination) \_\_\_\_\_ Date \_\_\_\_\_

Signature of Witness \_\_\_\_\_ Date \_\_\_\_\_

### Refusal of Hepatitis B Vaccination

I understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with hepatitis B vaccine, at no charge to myself. However, I decline hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring hepatitis B, a serious disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with hepatitis B vaccine, I can receive the vaccination series at no charge to me.

Signature of Employee (refusal of Hepatitis B vaccination) \_\_\_\_\_ Date \_\_\_\_\_

Signature of Witness \_\_\_\_\_ Date \_\_\_\_\_

I refuse because I believe I have (check one) \_\_\_\_\_ started the series \_\_\_\_\_ completed the series

### Release for Hepatitis B Medical Information

I hereby authorize \_\_\_\_\_ (individual or organization holding Hepatitis B records and address) to release to the Community School District, (individual and address) hepatitis B vaccination and hepatitis B titer information, if known. I give my permission for release of hepatitis B vaccination and related hepatitis B information to the Community School District for required employee records.

I hereby authorize release of my hepatitis B status to the healthcare provider, if there is an exposure incident.

Signature of Employee \_\_\_\_\_ Date \_\_\_\_\_

Signature of Witness \_\_\_\_\_ Date \_\_\_\_\_

**CONFIDENTIAL RECORD**

\_\_\_\_\_

**Employee Name (last, first, middle)**

**Social Security Number**

**Job title:**

	Hepatitis B Vaccination Date	Lot Number	Site	Administered by
1				
2				
3				

**Additional Hepatitis B status information:**

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Post-exposure incident (Date, time, circumstances, route under which exposure occurred):

\_\_\_\_\_

#### **Identification and documentation of source individual:**

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Digitized by srujanika@gmail.com

**Source blood testing consent:**

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Digitized by srujanika@gmail.com

**Copy of information provided to healthcare professional evaluating an employee after exposure incident (Date and professional):**

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**Attach a copy of all results of examinations, medical testing, follow-up procedures, and healthcare professional's written opinion.**

**Training Record (Date, time, instructor, location of training, summary):**

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## Sample: Universal Precautions in Schools

Universal precautions (UP) prevent transmission of infection, as well as decrease the risk of exposure for school personnel and students. It is not currently possible to identify all infected individuals, thus use precautions with every individual. UP pertain to blood and other potentially infectious materials (OPIM) containing blood. These precautions do not apply to other body fluids and wastes (OBFW) such as saliva, sputum, feces, tears, nasal secretions, vomitus and urine unless blood is visible in the material. Handle these OBFW as infectious because they can be sources of other infections. The single most important step in preventing exposure to and transmission of any infection is anticipating potential contact with infectious materials in routine as well as emergency situations. Based on the type of possible contact, prepare school personnel and students to use the appropriate precautions before the contact. Diligent and proper handwashing, the use of barriers, appropriate disposal of waste products and needles, and proper decontamination of spills are essential techniques of infection control. All individuals should respond to situations practicing UP followed by the activation of the school response team plan. Using common sense in the application of these measures will enhance protection of school personnel and students.

### Hand Washing

Proper handwashing is crucial to preventing the spread of infection. Remove textured jewelry on the hands or wrists before washing and keep off until completion of the procedure and hands are rewashed. Use of running water, lathering with soap and using friction to clean all hand surface is key. Rinse well with running water and dry hands with paper towels.

- Wash hands before and after physical contact with individuals.
- Wash hands after contact with any used equipment.
- Wash hands (or other skin) immediately before touching anything else if contact with blood or body fluids occurs,
- Wash hands whether gloves are worn or not and after gloves are removed.

### Barriers

Barriers anticipated to be used at school include disposable gloves, absorbent materials and resuscitation devices. Barriers reduce the risk of contact with blood and body fluids as well as to control the spread of infectious agents from individual to individual. Wear gloves when in contact with blood, OPIM or OBFW. Remove gloves without touching the outside and disposed of after each use.

### Disposal of Waste

Place blood, OPIM, OBFW, used gloves, barriers and absorbent materials in a plastic bag and disposed of in the usual procedure. Liquid or semi-liquid blood or OPIM and caked dried blood capable of releasing the substance if compressed requires special labeling and disposal as regulated waste. A band-aid, towel, sanitary napkin or other absorbed waste that does not have the potential of releasing the waste if compressed is not considered regulated waste. It is anticipated schools would only have regulated waste in the case of a severe incident and sharp objects. Dispose of soiled sharp objects (needles and others) in special puncture-proof labeled containers as regulated waste. Dispose of bodily wastes such as urine, vomitus or feces in the sanitary sewer system.

### Clean-up

Clean up spills of blood and OPIM immediately.

- Wear gloves.
- Clean up the spill with paper towels or other absorbent material.
- Use a solution of one part household bleach to one hundred parts of water (1:100), or other EPA registered disinfectant.
- Wash the area well.
- Dispose of gloves, soiled towels and other waste in a plastic bag.
- Clean and disinfect reusable supplies and equipment.

### Laundry

Handle laundry with blood or OPIM as little as possible with a minimum of agitation. Bag at the location. If it has the potential of releasing the substance when compacted, follow regulated waste guidelines. School personnel who have contact with this laundry wear protective barriers.

### Exposure

An exposure incident to blood or OPIM through contact with broken skin, mucous membrane or by needle or sharp stick requires immediate washing, reporting and follow-up.

- Always wash the exposed area immediately with soap and water.
- If a mucous membrane splash (eye or mouth) or exposure of broken skin occurs, irrigate or wash the area thoroughly.
- If a cut or needle stick injury occurs, wash the area thoroughly with soap and water.

Report the exposure immediately, notify the parent or guardian, and the person exposed contacts a physician for further healthcare.

Resource: Haynie, Palfrey, Porter. (1989). *Children Assisted by Medical Technology in Educational Settings: Guidelines for Care.* "Guidelines for Care Universal Precautions and Infection Control." (Project School Care, The Children's Hospital). Boston, Massachusetts. 17-19.

# Certificate of Attendance

School Occupational Exposure to Bloodborne Pathogens  
Information and Training

NAME

Presenter  
Location

Date  
Time  
Contact Hours

*Sponsored by*

*Attendee's Signature*

*Sponsor's Signature*

# School Occupational Exposure to Bloodborne Pathogens Information and Training

Based on:	Department of Labor Occupational Safety and Health Administration (OSHA) 29 CFR Part 1910.1030
Location	Occupational Exposure to Bloodborne Pathogens; Final Rule
Date	
Time	
This training is designed to:	
Provide information and training on the occupational exposure to bloodborne pathogens rule.	
Apply the rule to school occupational exposure to bloodborne pathogens.	
Implement the school program for occupational exposure to bloodborne pathogens.	
At the completion of the training the participant will be able to:	
Explain the standard regulatory text and its contents;	
Explain the epidemiology, modes of transmission, and symptoms of bloodborne diseases;	
Explain the exposure control plan and the availability of a copy of the written plan;	
Explain methods to recognize activities that may involve exposure to blood and other potentially infectious materials;	
Explain the use and limitations of methods that prevent or reduce exposure including appropriate engineering controls, work practices, and personal protective equipment;	
Discuss types, proper use, location, removal, handling, decontamination and disposal of personal protective equipment, and the basis for selection of personal protective equipment;	
Discuss the hepatitis B vaccine, including efficacy, safety, method of administration, benefits of being vaccinated, and the availability of the vaccine;	
Explain appropriate actions and persons to contact in an emergency involving blood or other potentially infectious materials;	
Discuss the post-exposure procedure, evaluation, and follow-up after an exposure incident;	
Explain the signs and labels and/or color coding; and	
Participate by interactive questions and answers during the training session.	

Presenter

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## **Occupational Exposure Resources**

**Occupational Exposure to Bloodborne Pathogens.** (1992). US Department of Labor, Occupational Safety and Health Administration. OSHA 3127 and Occupational Exposure to Bloodborne Pathogens. 29 CFR Part 1910.1030. Resources available from Iowa Department of Labor, Attention: Sue Sirna, 1000 E. Grand Avenue, Des Moines, IA 50319-0209. Phone 515-281-3420.

**Centers for Disease Control (CDC).** (February 9, 1990). "Protection Against Viral Hepatitis: Recommendations of the Immunizations Practices Advisory Committee." **Morbidity and Mortality Weekly Report (MMWR).** 39:RR2. 1-26.

## **Resources for Universal Precautions**

**American Federation of Teachers.** **It's Up to You. Building A Safer Approach to Universal Hygiene.** Brochure-Poster. One copy free, over 1 copy \$30 each.

**Centers for Disease Control (CDC).** (June 24, 1988). "Update: Universal precautions for prevention of transmission of human immunodeficiency virus, hepatitis B virus, and other bloodborne pathogens in health-care settings." **Morbidity and Mortality Weekly Report (MMWR).** 37:24. 377-382, 387-388.

**Centers for Disease Control (CDC).** (June 23, 1989). "Guidelines for prevention of transmission of human immunodeficiency virus and hepatitis B virus to health-care, public-safety workers." **Morbidity and Mortality Weekly Report (MMWR).** 38:S-6. 1-37.

**Centers for Disease Control (CDC).** (1987). "Recommendations for prevention of human immunodeficiency virus transmission in health-care settings." **Morbidity and Mortality Weekly Report (MMWR).** 36:S-2. 1-18S.

**Haynie, Palfrey, Porter.** (1989). **Children Assisted by Medical Technology in Educational Settings: Guidelines for Care.** "Guidelines for Care Universal Precautions and Infection Control." (Project School Care, The Children's Hospital). Boston, Massachusetts. 17-19.

**Iowa Department of Education.** (November 1989). **Human Immunodeficiency Virus and the Enrolled Student: A Model Policy.** "Appendix A, Universal precautions in a school setting." Iowa Department of Education.

**Iowa High School Athletic Association.** (July 1992). "Reducing the Risk of Contracting Bloodborne Pathogens Through Athletics and Reducing the Risk of Contracting Bloodborne Infections (HIV and Hepatitis B Virus): Universal Hygienic Precautions for the Athletic Setting." Guidelines and poster. Iowa High School Athletic Association, PO Box 10, Boone, Iowa 50036-0010, phone 515-432-2011. Available in each member district.

## **Videos**

**It Doesn't Hurt to be Careful. Universal Precaution for AIDS and other Contagious Diseases in the School.** Iowa Department of Education. Available for loan at each AEA. Thirteen minutes.

**The Risk of Contracting AIDS Through High School Sports Participation.** (July 1992). Iowa High School Athletic Association, PO Box 10, Boone, Iowa 50036-0010, phone 515-432-2011. Available in each member district.

**A Soap Opera.** Orange County Department of Education, Media Services Unit, PO Box 9050, Costa Mesa, CA 92628-9050. 714-966-4341. Available for loan phone 515-281-5327. 15 minute videotape on handwashing and other cleanup procedures.

**Universal Precautions for School Staff (#7003) and Universal Precautions for the Special Needs Bus (#4508).** AMS Distributors, Inc. P.O. Box 457, Roswell, GA 30076. Available for loan at each AEA.

**It's Up to You. Building A Safer Approach to Universal Hygiene.** American Federation of Teachers. \$8. Available for loan phone 515-281-5327.

## **Computer Program**

**Control of Bloodborne Disease Infections.** Tutorial for use on MS-DOS computer. Health Promotion Services, Inc.; Roseman, Rodney, and Acton. Available for loan phone 515-281-5327.